

Abstract:

Page 26, in the abstract section, replace with the following new abstract paragraph:

**--- A MULTICHANNEL FILTER-BASED HANDHELD
ULTRA WIDEBAND COMMUNICATIONS**

Abstract of the Disclosure

A multichannel filter-based outdoor handheld UWB communication transceiver is ~~provided~~ presented for outdoor operations, ~~according to some embodiments. The multichannel filter may be reused to produce the 11 multichannel UWB signal with multi-carrier frequencies by using either one single digital FIR lowpass-shaping filter or one digital cascaded FIR filter including the digital multiband FIR lowpass-shaping filter and the digital FIR-rejected lowpass filter.~~ Using eleven multichannels with multicarrier modulations, the invented handheld UWB communication transceiver can transfer the transmit and receive UWB signals at a with scalability data rate[[s]] up to 7.15 Gcps with scalability capabilities. for the outdoor operations. In addition, the handheld UWB communication transceiver can be controlled in a programmable way to avoid interference with WLAN devices.